

CLAIMS

1. A prophylactic/therapeutic agent for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, comprising an EDG-2 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, an EDG-5 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 9, its partial peptide, or a salt thereof.

2. A prophylactic/therapeutic agent for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, comprising a polynucleotide comprising a polynucleotide encoding an EDG-2 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, an EDG-5 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 9, or a partial peptide thereof.

3. A diagnostic agent for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, comprising a polynucleotide comprising a polynucleotide encoding an EDG-2 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, an EDG-5 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 9, or a partial peptide thereof.

4. A prophylactic/therapeutic agent for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, comprising an antibody to an EDG-2 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, an EDG-5 receptor comprising the same or substantially the same amino acid sequence as the

amino acid sequence represented by SEQ ID NO: 9, its partial peptide, or a salt thereof.

5. A diagnostic agent for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, comprising an antibody to an EDG-2 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, an EDG-5 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 9, its partial peptide, or a salt thereof.

6. A prophylactic/therapeutic agent for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, comprising a polynucleotide comprising the entire or part of a base sequence complementary to a polynucleotide comprising a polynucleotide encoding an EDG-2 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, an EDG-5 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 9, or a partial peptide thereof.

7. A diagnostic agent for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, comprising a polynucleotide comprising the entire or part of a base sequence complementary to a polynucleotide comprising a polynucleotide encoding an EDG-2 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, an EDG-5 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 9, or a partial peptide thereof.

8. A method of screening a preventive/therapeutic drug for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, which comprises using (i) lysophosphatidic acid or a salt thereof and (ii) an EDG-2 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, its

partial peptide, or a salt thereof, to screen a compound or a salt thereof that changes the binding property of lysophosphatidic acid or a salt thereof to said EDG-2 receptor or a salt thereof.

9. A kit for screening a preventive/therapeutic drug for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, comprising (i) lysophosphatidic acid or a salt thereof, and (ii) an EDG-2 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, its partial peptide, or a salt thereof.

10. A method of screening a preventive/therapeutic drug for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, which comprises using (i) sphingosine-1-phosphate or a salt thereof, and (ii) an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, its partial peptide, or a salt thereof, to screen a compound or a salt thereof that changes the binding property of sphingosine-1-phosphate or a salt thereof and said EDG-3 receptor or a salt thereof.

11. A kit for screening a preventive/therapeutic drug for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, comprising (i) sphingosine-1-phosphate or a salt thereof, and (ii) an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, its partial peptide, or a salt thereof.

12. A method of screening a preventive/therapeutic drug for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, which comprises using (i) sphingosine-1-phosphate or a salt thereof, and (ii) an EDG-5 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 9, its partial peptide, or a salt thereof, to screen a compound or a salt thereof that changes the binding property of sphingosine-1-phosphate or a salt thereof and said EDG-5 receptor or a salt thereof.

13. A kit for screening a preventive/therapeutic drug for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, comprising (i) sphingosine-1-phosphate or a salt thereof, and (ii) an EDG-5 receptor comprising the same or substantially the same amino acid

sequence as the amino acid sequence represented by SEQ ID NO: 9, its partial peptide, or a salt thereof.

14. A prophylactic/therapeutic agent for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, comprising (i) lysophosphatidic acid or a salt thereof and (ii) a compound or a salt thereof that changes the binding property of an EDG-2 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, its partial peptide, or a salt thereof.

15. A prophylactic/therapeutic agent for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, comprising (i) sphingosine-1-phosphate or a salt thereof and (ii) a compound or a salt thereof that changes the binding property of an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, its partial peptide, or a salt thereof.

16. A prophylactic/therapeutic agent for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, comprising (i) sphingosine-1-phosphate or a salt thereof and (ii) a compound or a salt thereof that changes the binding property of an EDG-5 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 9, its partial peptide, or a salt thereof.

17. A method of screening a compound for preventing/treating diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, or a salt thereof that changes an expression level of an EDG-2 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, or an EDG-5 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 9, which comprises using a polynucleotide comprising a polynucleotide encoding said EDG-2 receptor, EDG-3 receptor or EDG-5 receptor, or a partial peptide thereof.

18. A kit for screening a compound for preventing/treating diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, or a salt thereof that changes an expression level of an EDG-2 receptor comprising the same or substantially the same amino acid sequence

as the amino acid sequence represented by SEQ ID NO: 1, an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, or an EDG-5 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 9, comprising a polynucleotide comprising a polynucleotide encoding said EDG-2 receptor, EDG-3 receptor or EDG-5 receptor, or a partial peptide thereof.

19. A prophylactic/therapeutic agent for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, comprising a compound or its salt that changes an expression level of an EDG-2 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, or an EDG-5 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 9.

20. A method for preventing/treating diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema, which comprises administering to a mammal an effective dose of (1) (i) lysophosphatidic acid or a salt thereof and (ii) a compound or a salt thereof that changes the binding property of an EDG-2 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, its partial peptide, or a salt thereof, (2) (i) sphingosine-1-phosphate or a salt thereof and (ii) a compound or a salt thereof that changes the binding property of an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, its partial peptide, or a salt thereof, (3) (i) sphingosine-1-phosphate or a salt thereof and (ii) a compound or a salt thereof that changes the binding property of an EDG-5 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 9, its partial peptide, or a salt thereof, or (4) a compound or its salt that changes an expression level of an EDG-2 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, or an EDG-5 receptor comprising the same or substantially the same amino acid

sequence as the amino acid sequence represented by SEQ ID NO: 9.

21. Use of (1) (i) lysophosphatidic acid or a salt thereof and (ii) a compound or a salt thereof that changes the binding property of an EDG-2 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, its partial peptide, or a salt thereof, (2) (i) sphingosine-1-phosphate or a salt thereof and (ii) a compound or a salt thereof that changes the binding property of an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, its partial peptide, or a salt thereof, (3) (i) sphingosine-1-phosphate or a salt thereof and (ii) a compound or a salt thereof that changes the binding property of an EDG-5 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 9, its partial peptide, or a salt thereof, or (4) a compound or its salt that changes an expression level of an EDG-2 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, an EDG-3 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 5, or an EDG-5 receptor comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 9, to manufacture a prophylactic/therapeutic agent for diabetic nephropathy, chronic renal failure, nephritis, glomerulonephritis, interstitial renal disease or renal edema.